

a plurality of concentric zones, each zone including at least one main area for storing data and at least one spare area for storing data when the main area includes a defect, each zone having a spare area ratio equal to a ratio of a total size of main areas in the zone to a total size of spare areas in the zone, and the spare area ratios of at least two zones differing.

46. The optical disk of claim 46, wherein the spare area ratios of at least two adjacent zones differ.

REMARKS

Entry of this Amendment under Rule 116 and reconsideration and allowance of the subject application are respectfully requested.

Claims 5-6 and 33-46 are pending.

The application papers stand objected to under Rule 52(a). Applicant responded to this objection in the amendment filed April 22, 1999, and does not understand why the Examiner continues to maintain this objection. If the Examiner truly means to continue this rejection, he is respectfully requested to particularly point out the application papers violating Rule 52(a) and the reason for the violation.

Claims 33-44 stand rejected under 35 U.S.C. 103 as being unpatentable over the admitted prior art in applicant's disclosure (hereinafter the "APA") in view of Fukushima. Applicant respectfully traverses this art grounds of rejection.

In both the Final Office Action of March 2, 2000 and the previous Office Action of July 9, 1999, the Examiner correctly recognizes that the APA and Fukushima teach (1) dividing an optical disk medium into concentric zones having main data storage areas and spare data storage areas and (2) that for each zone the ratio of (i) the total size of the spare areas to (ii) the total size of the main area is the same. Namely, the ratio remains constant over the zones. Consequently, the Examiner has also recognized that the APA and Fukushima fail to disclose or suggest "a ratio between a size of each main area to a size of a corresponding contiguous spare area being varied," as recited in claim 33.

The Examiner, however, argues that the size of the spare areas in the APA are variable as in the present invention and that varying the rate or ratio in the APA or Fukushima would have been a matter of design choice.

Applicant respectfully disagrees.

First, the size of the spare areas in the APA are varied for the express purpose of maintaining the ratio or rate between size of the main area to the size of the spare areas constant across the zones. By contrast, as described with respect to the embodiments of the present invention, the size of the spare

area is varied so that this ratio or rate varies across zones. Consequently, part of the foundation for the Examiner's reasoning is in error.

Turning next to the design choice argument, the Federal Circuit in the case In re Chu, 36 USPQ2d 1089 (Fed. Cir. 1995), explained the proper analysis of a design choice rejection. The claims at issue in In re Chu required the placement of an SCR catalyst within a bag retainer. It was admitted by the Examiner and the Board of Appeals that the references cited in the art grounds of rejection failed to disclose this feature. However, the Board argued that this placement would have been a matter of design choice. Chu rebutted the design choice rejection by providing arguments, not found in the specification, as to benefits achieved by placing the SCR catalyst within the bag retainer.

The Federal Circuit held that the Board's design choice rejection was improper, and that Chu's claims were not obvious over the cited art. The Federal Circuit stated that first there was no teaching of the claimed placement of the SCR catalyst within the cited prior art, and second, Chu's arguments as to the advantages achieved by this placement clearly counter the design choice rejection. The Federal Circuit also pointed out the arguments supplied to counter the design choice rejection do not have to be found within the specification, but could, as in In re Chu be provided in applicants' arguments alone.

The situation in the present application is directly analogous to the situation in In re Chu. First, as admitted by the Examiner, there is no teaching in either the APA or Fukushima to vary "a ratio between a size of each main area to a size of a corresponding contiguous spare area," as recited in claim 33.

Second, varying the ratio as claimed increases the reliability of the optical disc. As described on page 4 of the specification, defects requiring the use of spare areas occur more frequently at certain regions of the optical disk. Because the APA and Fukushima provide a constant ratio across the zones, in a zone having more frequent errors, all of the spare error can become used. When this happens, the zone can no longer be used for storing data; thus, decreasing the reliability of the optical disk.

By varying the ratio as claimed, the claimed invention can provide a greater amount of spare area in those regions experiencing more frequent errors. As such, zones continue to be usable, and the reliability of the optical disk increases.

Accordingly, the Examiner's design choice rejection has been clearly countered as set forth in In re Chu. Having met the criteria to overcome the Examiner's design choice rejection as established by the Federal Circuit, Applicant respectfully requests that the Examiner withdraw the art grounds of rejection of claim 33.

Independent claims 39 and 45 include limitations to which the above-discussed arguments equally apply. Accordingly, claims 39 and 45 are patentable over the APA in view of Fukushima.

Claims 34-38, 40-44, and 46, dependent upon claims 33, 39 and 45, are patentable for the reasons stated above with respect to claims 33, 39 and 45 as well as on their own merits.

IV. Conclusion

All objections and rejections being overcome, it is respectfully submitted that the present application is in condition for allowance and a Notice to that effect is earnestly solicited.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicant respectfully petitions for a one (1) month extension of time for filing a response in connection with the present application and the required fee of \$110 is attached hereto.

In the event that any outstanding matters remain in this application, Applicant requests that the Examiner contact Gary D. Yacura (Reg. No. 35,416) at (703) 205-8071 to discuss such matters.

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If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

BIRCH, STEWART, KOLASCH & BIRCH, LLP

By: _____

Gary D. Macura

Registration No.: 35,416

GDY/kmr/cmm

P.O. Box 747

Falls Church, Virginia 22040-0747

Telephone: (703)205-8000